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AMSAT NEWS SERVICE
ANS-108
The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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SB SAT @ AMSAT $ANS-108.01
ANS-108 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 108.01
 >From AMSAT HQ KENSINGTON, MD.
DATE April 17, 2016
To All RADIO AMATEURS
BID: $ANS-108.01

New AO-85 Distance Record Claimed

5,751 km is the new claimed distance record for a QSO on AO-85. Betrand Demarcq, FG8OJ, in Saint-Francois, Guadeloupe (FK96ig) worked Jose Elias Diaz Rodriguez, EB1FVQ, in Vigo, Spain (IN52pe) at 19:15 UTC on April 14, 2016. A recording of the QSO is available here: https://www.dropbox.com/s/s0o1b1as1xlcrjs/eb1fvq.mp3

The AMSAT Satellite Distance Records page is located at http://www.amsat.org/?page_id=4751
New record claims may be sent to n8hm(a)amsat.org.

[ANS thanks AMSAT-NA and Paul, N8HM for the above information]

First-Ever D-STAR Satellite to Launch

The first-ever satellite to carry a D-STAR (Digital Smart Technologies for Amateur Radio) Amateur Radio payload into space is expected to launch on April 22 from Guiana. The OUFTI-1 (Orbital Utility For Telecommunication Innovations) CubeSat is one of three CubeSats developed by student teams under the European Space Agency (ESA) Education Office "Fly Your Satellite!" program, which is aimed at training the next generation of aerospace professionals. The satellites arrived in South America on March 25, followed by the student teams a few days later.

On March 30 the students pulled the "Remove Before Flight" pins and successfully verified that their CubeSats were ready for launch before replacing the access ports on the P-POD, which will secure the CubeSats prior to and during launch and then will release them into orbit. The next time the students will have contact with their respective CubeSats will be through their spacecraft's communication link, after the CubeSats have been deployed into orbit. Once thermal-optical tape has been applied to the P-POD to shield the CubeSats from extreme thermal radiation during the launch phase, the P-POD will be integrated with the Soyuz launch vehicle.

Constructed by students at the University of Liege in Belgium (ULg), OUFTI-1 will be the first satellite to carry an Amateur Radio D-STAR transponder. Developed by the Japan Amateur Radio League, D-STAR enables the simultaneous transmission of voice and digital data as well as call sign-based roaming via the Internet.

"The OUFTI-1 D-STAR repeater will be available either as a direct communication repeater between two users, and as an extension of the ULg D-STAR repeater," explains the article "D-STAR digital amateur communications in space with OUFTI-1 CubeSat" by Jonathan Pisane, ON7JPD; Amandine Denis, ON4EYA, and Jacques Verly, ON9CWD, all of ULg. The CubeSat's frequencies are 145.950 MHz (FSK AX.25), and D-STAR down, with an uplink at 435.045 MHz. OUFTI-1 will carry a CW beacon transmitting on 145.980 MHz.

The other two CubeSats are from Italy and Denmark. The CubeSat e-st(a)r-II from the Polytechnic University of Turin, Italy, will demonstrate an attitude control system using measurements of Earth's magnetic field. It will transmit CW and 1.2 k AFSK on 437.485 MHz. AAUSAT4 from the University of Aalborg, Denmark, will operate an automated ocean vessel identification system. It will transmit on 437.425 MHz.

See
https://ukamsat.files.wordpress.com/2016/04/202_jun_2013.pdf

[ANS thanks the ARRL Letter for the above information]

TAPR Digital Forum Schedule at Dayton Hamvention, Friday, 5/20

TAPR Digital Forum Schedule
Moderator: Scotty Cowling, WA2DFI

9:15 to 9:25 am Introduction by Steve Bible, N7HPR, TAPR President

9:25 to 9:35 am "Write for QST/QEX" by Kai Siwiak KE4PT, QEX Editor

9:35 to 10:00 am "SatNOGS - A network of open source satellite ground stations". by Corey Shields KB9JHU
Abstract: CubeSat operators tend to have few ground stations of their own and rely on amateur operators to help collect telemetry. With CubeSat deployments on the rise, more and more data is lost as there are not enough ground stations listening. The SatNOGS Project is a Network of Open Source Satellite Ground Stations, focusing on Low Earth Orbit (LEO) satellites. In this presentation, we introduce SatNOGS as a way to increase the amount of data collected from these satellites and returned to their operators. Learn what the SatNOGS project is, how it works, and what we have planned for the future of amateur radio satellite reception.

10:00 to 10:25 am "HamWAN High Speed IP Radio Network" by Bryan Fields, W9CR
Abstract: Presented will be an amateur radio high-speed IP backbone concept (HamWAN) with an emphases on building regional highly available networks. Utilizing the same techniques which enable the Internet, Amateur Radio networks may be built connecting projects to the Internet or other sites. Included will be an update on the regional HamWAN network deployments.

10:25 to 10:50 am "SDR Disrupt" by Chris Testa, KD2BMH
Abstract: Tools and techniques for software defined radio continue to evolve at a rapid pace, and we'll go over the landscape and advancements in SDR technologies this past year. Numerous technologies are driving the power-price-performance curve to a new level of efficiency. We'll take a look at John Stephensen, KD6OZH's mesh project (part of TAPR), which helps pave the way for next-generation wireless links. Latest developments in digital voice will also be discussed.

10:50 to 11:15 am "Spectrum Monitoring with Software Defined Radio" by Mike Ossmann, AD0NR
Abstract: Having developed HackRF One, the world's lowest cost wideband Software Defined Radio transceiver, the HackRF project continues to produce open source hardware designs for SDR. Find out about our designs in development now and our ideas for future boards that will enable the next generation

of SDR
enthusiasts.

More information about TAPR activities at the Dayton Hamvention at:
http://www.tapr.org/dayton.html

[ANS thanks TAPR for the above information]

Hans Blondeel Timmerman, PB2T, Named as IARU Satellite Advisor

The International Amateur Radio Union is pleased to announce that Hans Blondeel Timmerman, PB2T, is appointed to serve as IARU Satellite Advisor.

The appointment is effective immediately. Blondeel Timmerman was first licensed in 1980 and has served as VERON HF Manager from 2000-2001 and as VERON Vice President from 2001-2008. He was a member of the IARU Region 1 Executive Committee from 2002-2008 and served as IARU Region 1 President from
2008-2014. Blondeel Timmerman has served as EUDXF President since 2004 and currently serves as a YASME Foundation Director. He is retired from the Netherlands Army Signal Corps after a 38 year career working on satellite projects and spectrum management. He lives in the Netherlands with his wife
Margareet, K2XYL and has 2 adult sons.

The IARU Satellite Advisor represents the IARU to the satellite community and
the various amateur satellite organizations and performs satellite frequency
coordination according to the guidelines established by the IARU. In addition, the position calls for maintaining a database of coordination requests and letters, report to the IARU Administrative Council on issues related to satellites and satellite frequency coordination and, if requested,
to provide technical and operation advice to assist the representation of the
amateur satellite service to the International Telecommunication Union. The
Satellite Advisor is assisted by a panel of volunteer satellite advisory members.

Blondeel Timmerman replaces Hans van de Groenendaal, ZS6AKV, who has served as
IARU Satellite Adviser since 1994. Van de Groenendaal has established many of the procedures used for amateur satellite frequency coordination and has been a critical contributor to the process of satellite frequency coordination
for IARU. The IARU is grateful for Hans van de Groenendaal’s excellent work
and thanks him for his years of service in this important position. He will remain as special adviser to the satellite committee.

Any additional information can be obtained from the International Amateur Radio Union, PO Box 310905, Newington, CT 06131-0905 USA
Phone +1 860 594 0200
Fax +1 860 594 0259.

IARU Satellite Page

http://www.iaru.org/satellite.html

http://www.arrl.org/news/hans-blondeel-timmerman-pb2t-named-as-iaru-satellite-advisor

[ANS thanks the IARU and the ARRL for the above information]

Contest - Catch the signal of e-st(a)r-II CubeSat

We are the CubeSat Team of Politecnico di Torino, and we are writing to inform
you about the contest we have announced today.

The CubeSat Team is a student team of Politecnico di Torino involved in the design and development of small platforms for scientific missions and for testing new technologies. We are guys enthralled by space activities. Undergraduate and graduate students work together with researchers and professors to create a real hands-on experience.

“SPACE IN A CUBE: MISSIONS OF THE FUTURE” is our motto! We believe that small
satellites can contribute to a broad set of science goals and space based services. Our CubeSat missions aim at conceiving new scenarios and technologies to serve the scientific community while educating students in the
challenging field of aerospace engineering.

Our first CubeSat, e-st(a)r-I, was launched into orbit on February 2012, and the
second satellite, e-st(a)r-II, will be launched next week: the Soyuz launch ST-A
VS14 is scheduled on April 22, 2016, at exactly 09:02:13 p.m UTC, from the European spaceport in French Guiana

http://www.arianespace.com/mission/ariane-flight-vs14/

It is just one week to launch… it’s time for us to prepare for operations. To celebrate this date, we invite the radio-ham community to support the e-st(a)r-II mission by participating in the contest to listen for our CubeSat from orbit!
We have prizes for the first to receive the e-st(a)r-II signal and for the one
who provides us with the higher number of packets received in the first month
in orbit!

All details of the competition can be found at our official webpage:
http://www.cubesatteam-polito.com/operations/radio-amateurs/

Follow the daily updates on our Facebook page
https://www.facebook.com/CubeSatTeam .

Thank you in advance for your help in collecting TLM packets….. and break a leg!

CubeSat Team
Website: http://areeweb.polito.it/cubesat-team/
Facebook: https://www.facebook.com/CubeSatTeam

Twitter: https://twitter.com/CubeSatTeam

[ANS thanks JoAnne, K9JKM and the CubeSat Team of Politecnico di Torino for the above information]

Satellite DX Operation

Bahamas (FL15) - Bryan Green, KL7CN, plans to be active during daytime passes of FO-29 and SO-50 from Nassau, Bahamas as C6ACN on Tuesday, April 19, 2016 and from Coco Cay, Bahamas midday on Wednesday, April 20, 2016 (times TBD). The plan is subject to change. See @kl7cn on Twitter for updates.

Posted on the AMSAT Upcoming Satellite Operations page http://www.amsat.org/?page_id=3921

[ANS thanks Paul, N8HM for the above information]

ARRL/TAPR Digital Communications Conference

Technical papers are solicited for presentation at the 35th Annual ARRL/TAPR
Digital Communications Conference, to be held September 16-18 in St. Petersburg, Florida. Papers will also be published in the Conference Proceedings. Authors do not need to attend the conference to have their papers
included in the Proceedings. The submission deadline is July 31, 2016.

The ARRL/TAPR Digital Communications Conference is an international forum for
technically minded radio amateurs to meet and present new ideas and techniques. Paper/presentation topic areas include -- but are not limited to --

software defined radio (SDR),
digital voice,
digital satellite communication,
digital signal processing (DSP),
HF digital modes,
adapting IEEE 802.11 systems for Amateur Radio,
Global Positioning System (GPS),
Automatic Position Reporting System (APRS),
Linux in Amateur Radio,
AX.25 updates and Internet interoperability with Amateur Radio networks.

Submit papers to via e-mail to
maty(a)arrl.org<mailto:maty(a)arrl.org>
or via postal mail to:
Maty Weinberg, KB1EIB, ARRL,
225 Main St,
Newington, CT 06111.

Papers will be published exactly as submitted, and authors will retain all rights. Please do not email zip files as these will be rejected by our servers.

[ANS thanks Steve Ford, WB8IMY ARRL QST Editor for the above information]

ULA University CubeSat Competition

To U.S. colleges and universities:
United Launch Alliance has posted the application for its University CubeSat Competition and entries are due June 1, 2016!

The application and more information is located at http://www.ulalaunch.com/cubesats.aspx.

[ANS thanks ULA and CubeSat.org mailing list for theabove information]

AMSAT Events

Information about AMSAT activities at other important events around the country. Examples of these events are radio club meetings where AMSAT Area Coordinators give presentations, demonstrations of working amateur satellites, and hamfests with an AMSAT presence (a table with AMSAT literature and merchandise, sometimes also with presentations, forums, and/or demonstrations).

*Monday, 25 April 2016, AMSAT President Barry Baines, WD4ASW will give “An Overview of AMSAT” presentation to the Greensboro (NC) Amateur Radio Assocaition. The meeting will be held at Captain Bill’s Seafood restaurant located at 6108 W Market St, Greensboro, NC. Attendees meet for dinner around
1815 with the club meeting starting at 1915. The club’s website is w4gso.org.

*Friday through Sunday, 29 April-1 May 2016, ARRL Nevada State Convention in Las Vegas NV

*Saturday, 7 May 2016 – Cochise Amateur Radio Association Hamfest in Sierra Vista AZ

*Saturday, 14 May 2016 – Matanuska Amateur Radio Association Hamfest in Wasilla AK

*Saturday, 4 June 2016 – White Mountain Hamfest in Show Low AZ

*Saturday, 13 August 2016 – KL7KC Hamfest in Fairbanks AK

[ANS thanks AMSAT-NA for the above information]

ARISS News

Sucessful Contacts

Colegio Santa Rosa, Yerba Buena, Argentina, direct via LU1KCQ
The ISS callsign was scheduled to be NA1SS
The scheduled astronaut was Jeff Williams KD5TVQ
Contact was successful!

Congrats to Argentina on this ARISS event and contact with Jeff Williams!
All 16 questions answered by Jeff Williams
170 students present with Teachers and others.
3 TV and 3 Radio Stations on site !

Gagarin from Space. This session was amateur radio communications, Orla,
Russia, direct via RK3EWW
The ISS callsign was scheduled to be RSØISS
The scheduled astronaut was Yuri Malenchenko RK3DUP
Contact was successful for 2016-04-16 15:14 UTC

 From Claudio, IK1SLD in Italy:
Today the contact with RK3EWW Gagarin from Space was succesful.
Communications opened at 15:14:45 UTC and from my home I was able to
copy near
3 minutes.
This is the link to the file (of course I copied only the cosmonaut answer):

https://drive.google.com/file/d/0Byp8JadKjPOmekRIQlpzdWJfZ0U/view?usp=sharing

USA Science and Engineering Festival, Washington, D.C., telebridge via
IK1SLD
The ISS callsign was scheduled to be OR4ISS
The scheduled astronaut was Timothy Peake KG5BVI
Contact was successful: Sat 2016-04-16 18:19:28 UTC 78 deg

Upcoming Contacts

St Richards Catholic College, Bexhill on Sea, UK, direct via GB4SRC
The ISS callsign is presently scheduled to be GB1SS
The scheduled astronaut is Timothy Peake KG5BVI
Contact is a go for: Mon 2016-04-18 14:56:06 UTC 85 deg

An International Space Station school contact has been planned with
participants at St Richards Catholic College, Bexhill on Sea, UK on 18 Apr.
The event is scheduled to begin at approximately 14:56 UTC. The duration of
the contact is approximately 9 minutes and 30 seconds. The contact will be
direct between GB1SS and GB4SRC. The contact should be audible over the
UK and
adjacent areas. Interested parties are invited to listen in on the
145.80 MHz
downlink. The contact is expected to be conducted in English.

St Richard's Catholic College is a Science Specialist school tucked between
the South Downs and the English Channel. We have 1000 pupils on roll
between
Years 7-11. We provide an inclusive education for Catholic and Christian
pupils covering an extended catchment area covering approximately a 30 mile
radius. St Richard's was awarded Teaching School status late in 2014 and we
are the lead school in the Thrive Alliance, an association of primary
schools,

secondary schools and a sixth form college as well as lead in the Sussex Science Subject Hub. We are also a strategic partner in the Sussex Maths Hub.
St Richards' Science department enjoys a very strong relationship with the University of Sussex (particularly Astronomy & Physics); University of Greenwich (Outreach)and we sit on the STEM Focus Group hosted by the University of Brighton's STEMSussex.

We are a keen supporter of STEM events in our region, with particular success
at the Annual STEMFest event where we have won prizes at the National Science
and Engineering Competition for the last four years, twice through to national
competition. STEMSussex have used St Richard's STEM Clubs' provision as an exemplar due to its success in engaging pupils of all abilities across all year groups. The department has also enjoyed high quality Continuous Professional Development engagement in the STEM agenda with involvement in 'Space as a context for teaching science' courses and a future STEM project with the University of Reykjavik in Iceland.

We enjoy Space Camp UK, a residential trip with all things "spacy" at the National Space Centre and Duxford. The coordinating teacher, Dr Joolz Durkin,
is the curriculum enhancement for science and is also an enthusiastic "Space
Ambasador" and has worked with the Tim Peake Primary Project at Parklands Infants Eastbourne, Dallington School in Dallington, Pebsham Primary in Bexhill on Sea and Vinehall School in Heathfield as part of this link up.

Participants will ask as many of the following questions as time allows:

1. You have mentioned in an earlier call that you have been sleeping very
well on the Space Station. Is that still the case or have you found any
cumulative effects after four months in space ?

2. As the ISS hosts astronauts from many different nationalities, what
public holidays do the crew observe, if any, and how are they chosen?

3. St Richards and two of our Primary Project Partner school, Dallington and
Vinehall are taking part in the RHS 'Rocket Science' Experiment from the
Principia Mission. How will the results from this experiment
influence future planning for growing similar samples in another planet's
gravity?

4. We have seen the preparation with Heston Blumental of an exciting
astronaut menu for the mission - does the food taste the same in space as
it did on Earth?

5. In a sealed spacecraft like the International Space Station, how is the
air quality monitored and controlled?

6. We see the wonderful time lapse images of the ISS orbiting the Earth, but
what I like looking at are the stars and making out the constellations.
Do you do any astronomical research on the ISS?

7. During the mission you yourself are part of experiments using the

British
designed MMS Cerebral and Cochlear Fluid Pressure Analyser to collect data for the NASA Fluid Shifts investigation. Which aspect of the self-experimentation has been the most interesting or challenging?

8. Are there any experiments that rely on naked flames on the ISS? If so, how are they carried out and what low gravity precautions are employed?

9. If I oversleep my parents will wake me up - have you overslept on the ISS
and had to be woken up by someone?"

10. The distance between Bexhill and Brighton is 31 miles with a journey time by car of nearly 50 minutes. How much time would it take for the ISS to do this trip?

11. What are the greatest challenges of living in space and in retaining a permanent crew on board the ISS?

12. You have tweeted some amazing and beautiful images of the aurora. Have you been able to monitor solar flare or CME activity and correlate to the brightness of the aurora?

13. How does it feel to be able to see all humanity?

14. Is the ISS affected by the Earth's magnetic field?

15. On Sunday you will be joining thousands of others in taking part in the
London Marathon. What special routines have you trained for this in space?

16. In the London marathon, runners will have natural cooling as the run - how do you regulate your body temperature in a sealed environment such
as the ISS?.

17. We understand you are taking part in the Skin B research on the ISS? Can you share any interesting findings?

18. You have tweeted that having a bacon sandwich and cup of tea on arrival
at the ISS was the best welcome possible. What food are you looking forward to on landing?

19. What is special about space suits that help you breathe in space when on
an EVA?

20. How smooth was the launch in December?

STEM Trajectory Initiative with Albuquerque Public Schools, Albuquerque New Mexico, direct via NM5HD
The ISS callsign is presently scheduled to be NA1SS
The scheduled astronaut is Jeff Williams KD5TVQ
Contact is a go for: Fri 2016-04-22 17:32:37 UTC 83 deg

Wellesley House School, Broadstairs, Kent, UK, direct via GB1WHS
The ISS callsign is presently scheduled to be GB1SS
The scheduled astronaut is Timothy Peake KG5BVI
Contact is a go for: Sat 2016-04-23 12:10:50 UTC 62 deg

Watch

http://www.ariss.org/upcoming-contacts.html
for information about upcoming contacts as they are scheduled.

[ANS thanks ARISS, Dave, AA4KN, and Charlie, AJ9N for the above information]

Satellite Shorts From All Over

FemtoSat Under Development

Now we're getting even smaller than a 1U ... try 3cm x 3cm x 3cm. Meet femtosat ...

http://www.spacedaily.com/reports/The_next_big_thing_in_space_is_really_really_small_999.html

[ANS thanks JoAnne, K9JKM for the above information]

Satellite Show in Moreno Valley, CA 05/05/16

Clint Bradford, K6LCS, will be presenting his "How to Work the FM Amateur Satellites With Your HT" session at the Moreno Valley Amateur Radio Association on Thursday, May 5, 2016. ALL are welcome to attend.

“The MVARC has been a LONG-time supporter of the ARRL, quite active in their communities, and I am honored that they are asking me back for another presentation,” Clint writes.

Attendees will be shown everything needed to work the FM voice ham satellites - with a re-occurring theme of, "Most hams already have most of the necessary equipment ... " Attendees can download a four-page tutorial beforehand at ...

http://www.work-sat.com

... and Clint welcomes pre-presentation questions. Call him at 909-999-SATS (909-999-7287), or send email to clint(a)clintbradford.com .

May 5, 2016
Lake Perris State Recreation Area
17801 Lake Perris Drive
Perris, CA 9257
Meeting Room at Parking Lot Number 9
Call-in frequency 146.500 simplex once you are in the park.
(Just tell the Ranger at the gate you are going to the MVARA ham radio meeting - you won’t need to pay admission at the gate.)

[ANS thanks Clint, K6LCS for the above information]

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In addition to regular membership, AMSAT offers membership in the

President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
Joe Spier, K6WAO
k6wao at amsat dot org